

ABSTRACT OF THE DISCLOSURE

A method for fabricating at least one mesa or ridge structure in a layer or layer sequence, in which a sacrificial layer (4) is applied and patterned above the layer or layer sequence. A mask layer is applied and patterned above the sacrificial layer for definition of the mesa or ridge dimensions. The sacrificial layer (4) and of the layer or layer sequence are removed so that the mesa or ridge structure is formed in the layer or layer sequence. A part of the sacrificial layer (4) is selectively removed from the side areas thereof which have been uncovered in the previous step, so that a sacrificial layer remains which is narrower in comparison with a layer that has remained above the sacrificial layer as seen from the layer or layer sequence. A coating is applied at least to the sidewalls of the structure produced in the previous steps so that the side areas of the residual sacrificial layer are not completely overformed by the coating material. The sacrificial layer (4) is removed so that the layer that has remained above the sacrificial layer as seen from the layer or layer sequence is lifted off. A method is also disclosed for fabricating at least one gain-controlled laser diode in a layer sequence, in which method steps analogous to those described above are employed.